

---

Section 1

FACILITY SITING REPORT

---

DECEMBER 2004

Prepared for:



United States Army  
Corps of Engineers



United States Environmental  
Protection Agency

Prepared by:



**ecology and environment, inc.**  
International Specialists in the Environment

# 1

## Introduction

### 1.1 Overview of Facility Siting

The Record of Decision (ROD) for the Hudson River PCBs Superfund Site was issued by the United States Environmental Protection Agency (EPA) on February 1, 2002. As stated in the ROD, the remedial action (RA) includes dredging approximately 2.65 million cubic yards of PCB-contaminated sediments from three specific reaches of the Upper Hudson River, (i.e., River Sections 1, 2, and 3). River Sections 1, 2, and 3 extend from the former Fort Edward Dam to the Federal Dam at Troy (USEPA 2002).

In conjunction with the development of EPA's *Hudson River PCBs Site Phase 3 Report: Feasibility Study* (FS) (USEPA December 2000), EPA conducted a preliminary evaluation to determine the engineering characteristics necessary to site a sediment processing/transfer facility or landfill (TAMS Consultants, Inc. December 1997). In the ROD, EPA determined that it was not feasible to dispose of Hudson River sediments in an "on-site" (i.e., near the river) landfill. EPA also determined that it would be necessary for dredged sediments to be dewatered and stabilized (as needed) at facilities near the river before the sediments would be transported to licensed off-site (outside the Upper Hudson River Valley) disposal facilities.

Consequently, the siting of one or more sediment processing/transfer facilities is linked to the implementation of the remedy. Important components of the remedial design (RD) and the RA, therefore, are the design and construction of one or more sediment processing/transfer facilities. A facility would be used to transfer sediment from the edge of the river to a processing area, dewater/stabilize the sediment, treat the water from the dewatering process, and transfer sediment to a rail or barge for transport to a disposal facility. If a beneficial use of some of the dredged material is identified, then an appropriate transportation method (i.e., rail, truck, or barge) will be determined (USEPA 2002).

#### 1.1.1 Purpose of Facility Siting

The purpose of facility siting is to identify locations within the defined boundaries of the facility siting study area (Figure 1-1) that: 1) are suitable for the design, construction, and operation of a sediment processing/transfer facility, and 2) will facilitate the successful completion of the RA.

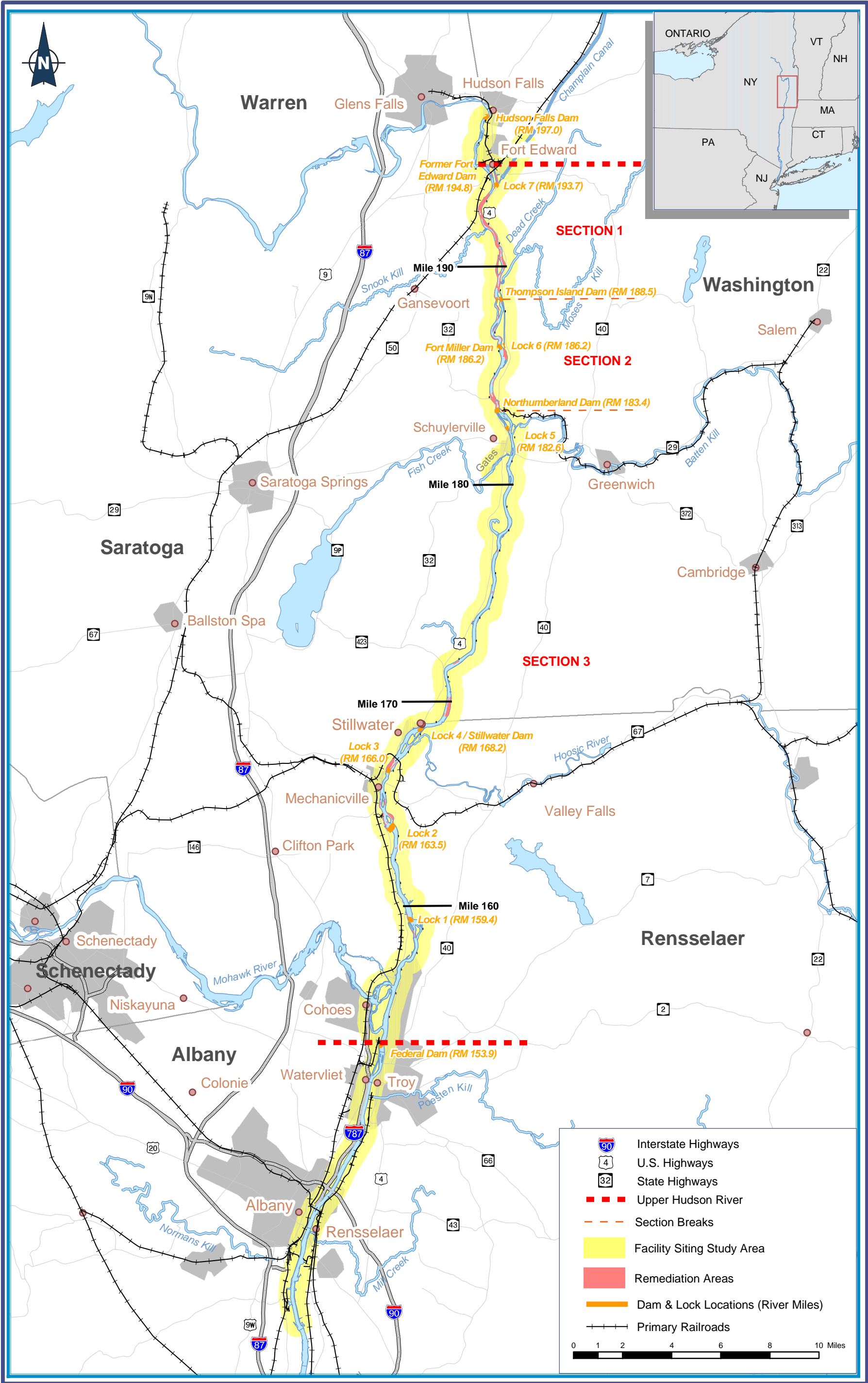
### 1.1.2 Facility Siting Milestones

In December 2002 the EPA's *Facility Siting Concept Document* (i.e., Concept Document) (USEPA December 2002) was issued to the public. The release of the report and the initiation of public involvement specific to facility siting represented the beginning of the facility siting process. The Concept Document:

- Defined the geographic boundaries of the facility siting study area (study area);
- Identified the key steps driving the facility siting process (i.e., developing criteria that can be used in the decision-making process; establishing a procedure for identifying, screening, recommending, and selecting potential facility locations; and identifying locations that meet the requirements of siting a sediment processing/transfer facility);
- Presented the criteria that were to be used to assist in the identification, screening, evaluation, and selection of suitable sites; and
- Identified the expected chronology of the siting process from identifying Preliminary Candidate Sites (PCSs) to selecting site(s) for remedial design.

In June 2003, EPA held public forums to update communities on the status of the facility siting process and released the *Technical Memorandum: Identification of Preliminary Candidate Sites* (the Tech Memo) (USEPA 2003). This document presented the results of the detailed evaluation and screening process used to identify the PCSs. The selection of the PCSs involved the following steps: Geographic Information System (GIS)-based database development; screening of the study area using tax parcel data and selected New York State Office of Real Property Services (NYSORPS) property classification codes; and filtering of parcels using the Group 1 criteria (i.e., engineering). The application of the siting criteria and the subsequent screening of parcels involved eliminating parcels within the study area that did not meet the initial requirements of property classification (an indication of land use) and the selected proximities for river, rail, and road access. The filtering process involved a series of analyses and evaluations that ultimately identified 24 PCSs (see Table 1-1 and Figure 1-2).

Following the identification of the 24 PCSs, further screening of sites involved a combination of site visits and interviews with people knowledgeable about the sites, re-evaluation of the Group 1 criteria, analysis of each site relative to the Group 2 criteria, and coordination with the RD Team. Site screening focused on site conditions and features and agreement with the Group 1 and Group 2 criteria (i.e., additional considerations). The culmination of that process was the identification of seven Final Candidate Sites (FCSs) (see Table 1-2 and Figure 1-3).



SOURCE ECOLOGY & ENVIRONMENT, INC. 2002, ESRI 2002, USEPA 2002a  
Note: RM = River Miles

**Figure 1-1: Hudson River PCBs Superfund Site  
Facility Siting Study Area, Upper Hudson River**

**Table 1-1 Preliminary Candidate Sites**

PCSs River Sections	Location (Town and County)	Approximate River Mile
<b>River Section 1</b>		
Energy Park (Champlain Canal)	Fort Edward, Washington County	195.1
Longe (Champlain Canal)	Fort Edward, Washington County	195.0
Old Moreau Dredge Spoils Area	Moreau, Saratoga County	193.8
State of New York (A)	Moreau, Saratoga County	193.2
<b>River Section 2</b>		
Georgia Pacific	Greenwich, Washington County	183.2
<b>River Section 3</b>		
Bruno	Schaghticoke, Rensselaer County	166.5
Brickyard Associates	Schaghticoke, Rensselaer County	166.0
Edison Paving	Schaghticoke, Rensselaer County	164.0
NIMO Mechanicville	Halfmoon, Saratoga County	164.0
NYS Canal Corporation	Halfmoon, Saratoga County	162.4
General Electric (C)	Waterford Saratoga County	159.0
Green Island IDA	Green Island, Albany County	154.4
<b>Below River Section 3</b>		
Troy/Slag/Rensselaer IDA	Troy, Rensselaer County	151.4
Callanan/Rensselaer IDA/City of Troy/King Services	Troy, Rensselaer County	150.8
Town of North Greenbush	N. Greenbush, Rensselaer County	148.7
Rensselaer Tech Park (A)	Rensselaer, Rensselaer County	147.7
Rensselaer Tech Park (B)	Rensselaer, Rensselaer County	147.3
State of New York/First Rensselaer Marine Management	Rensselaer, Rensselaer County	146.7
Albany Rensselaer Port District/BASF	Rensselaer, Rensselaer County	144.3
Bray Energy	Rensselaer, Rensselaer County	144.0
Bray Energy/Petrol/Gorman/Transmontaigne	Rensselaer and E. Greenbush, Rensselaer County	144.0
Norwest	E. Greenbush, Rensselaer County	143.5
OG Real Estate	Bethlehem, Albany County	142.8
P & M Brickyard	Coeymans, Albany County	134.1

**Table 1-2 Final Candidate Sites**

FCSs River Sections	Location (Town and County)	Approximate River Mile
<b>River Section 1</b>		
Energy Park/Longe/NYSCC	Fort Edward, Washington County	195.1
Old Moreau Dredge Spoils Area/NYSCC	Moreau, Saratoga County	193.8
<b>River Section 2</b>		
Georgia Pacific/NYSCC	Greenwich, Washington County	183.2
<b>River Section 3</b>		
Bruno/Brickyard Associates/Alonzo	Schaghticoke, Rensselaer County	166.5
NYSCC/Allco/Leyerle	Halfmoon, Saratoga County	162.4
<b>Below River Section 3</b>		
State of New York/First Rensselaer/Marine Management	Rensselaer, Rensselaer County	146.7
OG Real Estate	Bethlehem, Albany County	142.8

EPA presented that process and the results of the analyses in public meetings and developed fact sheets for public review in September 2003.

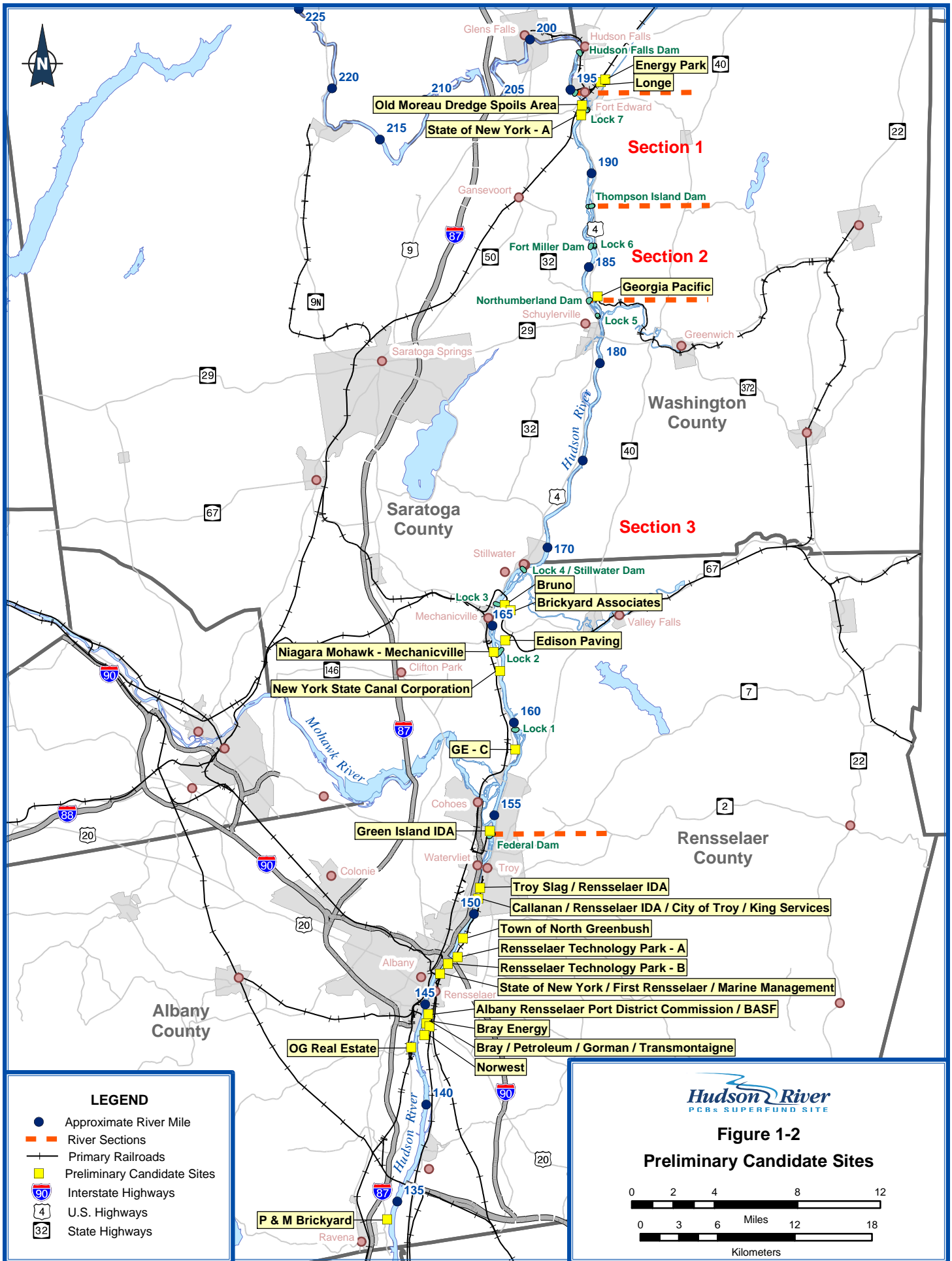
### 1.1.3 Facility Siting Report

The purpose of this document is to provide a summary of the analyses that were conducted on the PCSs, the selection of the FCSs, the results of site-specific investigations of each FCS, the development and evaluation of Group 3 criteria, the identification of sites considered suitable for the design, construction, and operation of a sediment processing/transfer facility, and those Suitable Sites that were selected as the Recommended Sites. The selection of locations for Phase 1 and Phase 2 sediment processing/transfer facilities will result from further design evaluations of the Recommended Sites.

This report presents the following:

- Section 1 provides background information on the facility siting process along with other components of the project related to facility siting (i.e., remedial design, engineering performance standards, quality of life performance standards, and evaluation of water-based facilities).
- Section 2 presents an overview of the PCS identification and evaluation process, including the application and use of the facility siting criteria.
- Section 3 describes the identification and evaluation of the FCSs, including the development and application of Group 3 criteria.









- Section 4 summarizes the results of the evaluation of the FCSs and identifies the Suitable Sites.
- Section 5 presents a summary of the analysis that led to selecting the Recommended Sites.
- Section 6 identifies the Selected Sites and presents a summary of the analysis that led to their selection.

## **1.2 Interrelationship of Facility Siting with Project Activities**

The facility siting process and the remedial design of the dredging program are interdependent. It is important that the selected sediment processing/transfer facility(ies) enhance the opportunity for designing a project that will meet the engineering and quality of life performance standards and, inherent in meeting those standards, will be protective of human health and the environment.

Therefore, selecting the best location for a sediment processing/transfer facility is critical to the successful design of this project. Having identified the Selected Sites, the RD Team can move forward with designing site-specific aspects of the processing facility operations. Additionally, once the geographic location of the site is known, the designers can move further along in their evaluations to determine the methods for dredging, material handling, and transportation logistics.

Facility siting (the subject of this report) is one of several key aspects of the project affecting the remedial design. Two other important aspects of the project that are closely related to facility siting are the engineering performance standards and the quality of life performance standards. The interrelationship of these components to facility siting and the remedial design are further described below. In some cases these interrelationships are complex, and some examples are given to provide the reader with a general understanding of how these important relationships relate to the successful completion of the remedial design.

There are two options for location of a processing facility, land-based (the primary focus of the document) and water-based. A water-based facility evaluation was completed as part of the facility siting process. The results of the water-based evaluation and its interrelationship to land-based facility siting are also described below.

### **1.2.1 Facility Siting and Remedial Design**

The primary objective of the RD is to develop plans and specifications in accordance with the requirements of the engineering and quality of life performance standards, consistent with the ROD, while ensuring that the remedy is implemented in a safe and efficient manner. The RD is divided into three phases: preliminary, intermediate, and final. Currently, preliminary design is complete, and

intermediate design is in progress. The goal of the preliminary design phase was to determine applicable process options that would be suitable for each major task in the RA and to determine the most important process variables for the various components of the RA.

Optimization of the remedial design (as it relates to facility siting) is a complex activity. In general, it can be described as providing a sediment processing/transfer facility site(s) that allows the project to be completed in a safe, practical, effective and efficient manner, while meeting the performance standards. EPA has performed the facility siting process considering design interrelationships and the need to optimize the design. The following are a few examples indicating some of the interrelationships that will allow for design optimization.

- The geographic location of the facility relative to adequate transportation systems is important to efficiently move processed sediment out of the project area for disposal, a requirement of the ROD.
- The facility size and useable space for operations (such as the rail yard) are important so that adequate space is available to allow for design of an efficient rail yard. Having a larger area on-site is an important aspect in the design of rail switching and rail car movement (i.e., staging, loading, and transfer of rail cars onto and off-of the site).
- The ability to use hydraulic dredging is directly dependent upon the distance from the dredge area to the processing location such that a hydraulic pipeline can be constructed. Since there is a practical limit to the distance hydraulically dredged material can be transported by pipeline, once the facility is identified, the designers can determine if hydraulic dredging is an option for dredge areas. In an effort to allow design optimization, facilities will be selected as close as practicable to the greatest volumes of sediment to be removed.

Intermediate design will use the results of existing and ongoing studies to evaluate and select appropriate processes necessary to complete the RA. Final design will provide detailed design specifications that will be ready for contracting various components of the RA.

In addition to the relationship between facility siting and design, there are also interrelationships between facility siting and the project performance standards.

### **1.2.2 Facility Siting and Engineering Performance Standards**

EPA has required engineering performance standards to ensure that the cleanup meets the health and the environmental protection objectives set forth in the ROD. These standards will be used to measure the progress of the dredging as well as its effect on the river system.

The three engineering performance standards are dredging resuspension, dredging residuals, and dredging productivity. The dredging resuspension standard is designed to limit the concentration of PCBs in river water such that water supply intakes downstream of the dredging operation are protected and to limit downstream transport of PCB-contaminated dredged material. The dredging residuals standard is designed to detect and manage small amounts of contaminated sediment that remain in the dredged area after the initial remedial dredging. The dredging productivity standard is designed to monitor and maintain the progress of the dredging to meet the schedule stated in the ROD. Each performance standard will have action levels that will guide appropriate responses, such as preventive actions or engineering improvements, as necessary, as a means of avoiding exceedances of the standards.

The selected facility must satisfy certain design criteria to allow for the attainment of the engineering performance standards. Potential sites that exhibit greater benefits with fewer, or potentially more manageable, potential limitations and/or additional design considerations will increase the likelihood of the continued attainment of the engineering performance standards. For example, the facility must have the characteristics that allow for design of an efficient rail yard, waterfront, transfer area, etc. to provide efficient processing and transfer capabilities critical to meeting the engineering productivity performance standard.

### **1.2.3 Facility Siting and Quality of Life Performance Standards**

As indicated in the ROD, potential impacts to properties near a sediment processing/transfer facility will be minimized through careful siting, as discussed in this report, and as part of the design of the facility. One of the components of the design is the quality of life performance standards, which will serve as specific requirements under which the remedial activities are to be implemented. The requirements will be established to minimize quality of life impacts and ensure protection of human health and the environment during the course of the RA.

The quality of life performance standards include standards for air quality, odor, noise, lighting, and navigation. The standards will be performance-based, meaning that standards will describe specific parameters by which tasks are to be completed. These parameters could include requirements such as when the task shall be done and what impacts shall be prevented while it is in progress. The performance-based approach has the advantage of allowing innovation and optimization during the course of the RA and will provide the RD Team with the flexibility to complete the remedy in a safe and efficient manner.

The facility siting process and the quality of life performance standards both take into account potential impacts to communities. The facility siting process also takes into account considerations of quality of life concerns (i.e., proximity to sensitive resources). The considerations were also utilized to screen and select sites to minimize any potential adverse impacts to local communities in the vicinity of potential site locations.

In the ROD, EPA indicated that the siting process would focus on industrial and/or commercial properties. One of the initial steps in the process was to screen out residential and agricultural parcels in order to minimize the potential for quality of life issues in local communities. Some local communities are concerned about the potential impacts of a sediment processing/transfer facility on their overall quality of life and human health. Some members of the public have also expressed concern that they may be affected by the proximity of a sediment processing/transfer facility to their homes. Therefore, Group 2 criteria included an evaluation of the proximity of the site to sensitive resources (i.e., residential, educational, parks/playgrounds, hospitals, and other recreational and health facilities). These criteria were developed to identify potential quality of life issues within the vicinities of the PCSs, FCSs, Suitable Sites, and Recommended Sites, and to consider those issues relative to the other facility siting criteria for each site. Once the facilities are sited, the quality of life performance standards (i.e., air quality, odor, noise, etc.) will be monitored at the selected facility sites to minimize potential adverse impacts to the local communities.

#### **1.2.4 Facility Siting and Water-based Facility Evaluation**

A water-based facility evaluation was completed as part of the facility siting process. The objective of this water-based facility evaluation was to assess the feasibility of processing dredged materials on the water such that the use of land-based facilities would be significantly reduced or eliminated. The water-based facility evaluation included:

- The development and evaluation of a conceptual and viable range of approaches for water-based processing;
- Evaluation of the benefits, disadvantages, and limitations of a water-based facility approach; and
- Discussion of the potential effects on the land-based siting process.

Three approaches were developed that represent a range of applicable pretreatment technologies that may be used during the cleanup. The range of approaches is primarily associated with the technology utilized, with Approach 1 using high technology (mechanical dewatering) and Approach 3 relying on low technology (primarily on passive dewatering).

The following is a brief description of each approach.

**Approach 1: Water-Based Sediment Processing Primarily Using Physical Separation and Mechanical Dewatering** - combines physical separation and mechanical dewatering processes with limited solidification/ stabilization to no solidification/stabilization. Mechanical dewatering generally requires the smallest equipment footprint because it uses mechanized equipment to remove water from sediment. In general, this approach can be described as processing that re-

moves water such that the volume of solid waste requiring transport and disposal is minimized. This method is acceptable for both mechanically and hydraulically dredged sediment.

**Approach 2: Water-Based Sediment Processing Using Physical Separation, Mechanical Dewatering, and Solidification/Stabilization** - combines physical separation with less mechanical dewatering than Approach 1, followed by solidification/stabilization (such as the addition of Portland cement). In general, this approach can be described as processing that removes free water in the sediment (to the extent practicable) using low technology methods such as sand filters, followed by the addition of stabilizer. This approach is similar to those used in other land-based dredging projects (e.g., the Alcoa, Inc. East Smelter Plant [formerly the Reynolds Metals Company] site on the St. Lawrence River), but could be accomplished at a water-based facility. This method is acceptable for mechanical dredging and would be acceptable for hydraulic dredging only on a limited basis.

**Approach 3: Water-Based Sediment Processing Primarily Using Physical Separation and Solidification** - includes physical separation and minimal to no mechanical dewatering followed by stabilization (such as the addition of Portland cement). In general, this approach can be described as processing in a way that would remove free water in the sediment (to the extent practicable) using lower technology methods such as allowing the water to run off sediment on a conveyor. This approach primarily uses stabilizer to prepare the sediments for disposal (i.e., reduce the amount of free water). This method is acceptable for mechanical dredging only.

The three approaches that were developed to assess the feasibility of processing dredged materials on the water were compared with each other and with land-based facilities using the following six evaluation criteria:

- Applicability to site conditions and dredging project objectives;
- Effectiveness;
- Implementability;
- Potential impacts on the ability to satisfy the performance standards;
- Impact on the remedial action schedule; and
- Relative cost impacts.

Once each approach was evaluated individually, the overall concept of a water-based approach was further considered in terms of the key benefits, disadvantages, and limitations. Those key benefits, disadvantages, and limitations form



the basis of the conclusions. See the *Water-Based Facilities Evaluation Report* (April 2004) for additional details.

The findings of the water-based feasibility evaluation indicate that the benefits of water-based processing do not outweigh the disadvantages to the degree that would warrant full-scale use with existing known technologies. However, there may be a few circumstances (as described in the conclusions of the *Water-Based Facilities Evaluation Report*) where limited water-based processing would be applicable and could be considered further by the RD Team during remedial design. It should be noted that, regardless of the ability to use water-based processing, a land-based facility(ies) will be needed.

### **1.3 Facility Siting and Public Coordination**

An integral component of the facility siting process is coordination and interaction between various stakeholders and EPA's facility siting team. Regular communication has taken place between EPA and the public, state and federal agencies, and the RD Team.

EPA made a commitment to conduct the facility siting process involving communities and allowing for public input. This has included holding public sessions throughout the process and providing the public with information about sites identified as potential locations for a sediment processing/transfer facility as well as sites that were considered and then eliminated from further study. Public involvement efforts to date have included hosting several public sessions, designed to provide information and promote discussion, and issuing fact sheets and documents for public review. These efforts have been supported by staff at the Hudson River Field Office (HRFO) in Fort Edward, at EPA's Region 2 offices in New York City, and by the EPA facility siting team.

Since December 2002, EPA also has been asked to attend community meetings to further discuss the siting process and to provide details as to how and why sites were selected. Community meetings have been held in places such as Fort Edward, Schaghticoke, Bethlehem, Greenwich, Halfmoon, Schuylerville, and Stillwater. EPA staff from the Field Office and Region 2 Headquarters have also held numerous meetings with other local officials, organizations, and agencies that may be affected by the facility siting process.

The first major public outreach effort for facility siting was in December 2002 and included hosting public availability sessions in Fort Edward and Albany, New York, issuing a fact sheet, and preparing the Concept Document for public review. The main purpose of the public meeting was to introduce the functions of a sediment processing/transfer facility, identify the facility siting study area, introduce the criteria that would be used to identify potential facility locations, and describe how the selection process would be conducted.

In June 2003, EPA hosted a second series of public sessions and issued a fact sheet and technical memorandum detailing the process of identifying the PCSs using the criteria and process that were introduced in December 2002. The public sessions were once again held in Fort Edward and Albany, New York.

In September 2003, EPA hosted public forums in Fort Edward and Troy, New York, and issued a fact sheet that identified the FCSs. Presentations to and discussions with the public involved the evaluation and screening process that led to the elimination of some PCSs and the selection of the FCSs.

EPA released the *Draft Facility Siting Report* for public review and comment on April 28, 2004. The 60-day public comment period began on April 28, 2004 and was scheduled to end on July 1, 2004. EPA extended the comment period through July 30, 2004 after numerous requests from the public, thus increasing the comment period to 90 days. Public involvement activities relating to the release of this report included multiple fact sheets and public forums throughout the Upper Hudson area. These public forums, which occurred through the months of May, June, and July 2004, were held within various communities throughout the project area.

This document reflects the incorporation of all substantive comments received during the comment period. In addition, based on an evaluation of information discussed in this report as well as additional design and site information received during the public comment period, this Facility Siting Report has been revised to present the Selected Sites (see Section 6).

#### **1.4 Sediment Processing/Transfer Facility Description**

As prescribed by the Hudson River PCBs Superfund Site February 2002 ROD, the selected remedial action for the Hudson River PCBs Superfund Site includes dredging PCB-contaminated sediments from the Upper Hudson River portion of the site. These sediments will be processed for off-site transportation and disposal and/or beneficial use. Dredged sediments are to be transported via barge or pipeline to processing/transfer facilities for dewatering and stabilization (as needed). As indicated in the ROD, although the facilities were expected to be land-based, an evaluation of water-based facilities was required during the remedial design process. Water-based facilities were evaluated separately and the results of that evaluation are in Section 1.2.4. This section provides a description of a land-based facility.

Land-based facilities will be used to process and stabilize dredged PCB-contaminated sediment for off-site shipment. The main activity associated with processing is the removal of water from the sediment (dewatering). The terms *dewatering facility* and *sediment processing/transfer facility* have been used interchangeably on this project and refer to the same facility.

For mechanical dredging the facility is expected to include transfer operations from barges to the facilities for processing. For hydraulic dredging a pipeline will transfer the dredged sediment to staging chambers before processing. Once the sediment has been processed and is stabilized, it will be transferred back to a barge or to rail for transportation to approved disposal facilities. If the sediments are approved for beneficial use, they may be transported by barge, rail, or truck.

#### **1.4.1 Status of Design**

The description of operations/activities at the facilities is based primarily on information provided in the FS as well as in the *Preliminary Design Report* (General Electric Co. April 2004) and from various meetings and discussions between the EPA Team and the RD Team. It should be noted that because Phase 1 intermediate design is currently in progress, the details regarding the approaches to transferring, processing, stabilizing, and transporting sediment have not yet been completely developed. In addition, the dredging method (mechanical or hydraulic) will not be determined until later in the design process. Thus, the facility description below is based on available information and an anticipated set of assumptions that may change slightly as design progresses.

#### **1.4.2 Description of Key Facility Features and Activities**

The following are key site features and activities associated with the facilities.

- The RD Team has indicated that the processing operations will require a footprint of about 5 acres (for mechanically dredged material) to 15 acres (for hydraulically dredged material). If transportation is by rail, an additional 15 to 25 acres for an on-site rail yard will be needed. The acreage/footprint needed for a rail yard can vary significantly, depending on the linear distance available that is parallel to existing rail (i.e., length of rail frontage parallel to a site property line).
- It is likely that the facility will operate 24 hours per day, 7 days per week to meet the engineering performance standard for dredging productivity.
- As described in the *Preliminary Design Report*, the rate of processing must be equal to or exceed the rate of dredging to be considered effective.
- Sediments will be unloaded from barges along the river at a bulkhead area. A berthing area may be needed to stage barges out of the navigation channel during unloading at some sites. Other areas for on-river activities will be needed for support vessels.
- Unprocessed sediment will be staged and mixed.
- Sediment solids will be separated using equipment such as screens and hydrocyclones.

- Sediment will be dewatered using methods such as gravity separation, filter press, and/or centrifuge.
- Sediments will be stabilized/solidified with additives such as Portland cement and/or lime.
- Dewatered/processed sediment will be staged before loading.
- Water removed from the sediment will be treated using technologies such as clarification, multimedia filtration, oxidation, and granular activated carbon. This treated water will need to comply with state and federal discharge regulations before being discharged back to the river.
- Chemicals and materials needed to support operations (such as stabilizing material) will likely be trucked into the site, where they will be unloaded and staged.
- Stabilized sediment will be loaded for transport to approved disposal facilities. The disposal facilities will be outside the project area.
- A rail yard is expected to be located on-site and will include rail spurs and rail car staging areas.
- River backfill material will be transferred and staged. A separate facility or facilities may be used for backfill staging and operations.
- Support facilities and equipment storage are expected to include office areas, vehicle parking lots, restrooms, laboratories for testing sediments, etc. Housing for equipment (i.e., heavy machinery, processing and transfer equipment) will be needed on-site. Space for winter storage of vessels and associated on-river equipment may also be needed.

Other properties that may be needed to implement the remedy may include access points to the river, areas for the hydraulic pipeline, areas for hydraulic booster pumps, backfill staging areas, and additional rail car operation areas. Once the design has been completed, the need for additional access easements may also be determined necessary to provide acceptable ingress and egress for facility access roads, for accessing rail, and for constructing a rail yard of acceptable dimensions for rail car loading and circulation. These other properties are not part of the facility siting process and are expected to be acquired by the RD/RA Team.

The type and size of facility structures, buildings, equipment, staging areas, and other facility components will vary based on factors such as the method of dredging, the rate of processing required for the facility, and the type of sediment to be processed. Even though these will be determined in more detail during design,

sufficient information was available to the facility siting team to conceptualize a facility and complete the facility siting evaluations.